Visualization
as a design and planning tool for
Complete Streets Projects

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Visualizations help our ability to **Communicate, Perceive, Process, & Respond** to information.

**Visualizations** are omnipresent all around us and we make use of them intuitively everyday!
Designing and planning 

**Complete Streets**

is a complex

**multi-disciplinary process**

that requires disparate sets of information to be synthesized and presented in a comprehensive manner.

**Visualizations can help this planning and design process.**
Architects, Landscape Architects, & Urban Designers have always relied on power on visualization in their work.

Lakeside Master Plan, Chicago. Source: SOM
Architects, Landscape Architects, & Urban Designers have always relied on power on visualization in their work.
Policy documents have also started to utilize more graphics
Technically accurate, yet easy to understand visualizations can act not just as a communication tool, but also as an integral design and implementation tool.

Examples of Visualization Types:

- Before and After 3D Renderings,
- Animations,
- Rendered Plans & Cross-Sections
- Diagrams
Ways in which visualizations act as a design and planning tool.

• **Internal communication medium for an interdisciplinary project team**

• **Compare multiple alternatives**

• **Communication tool in stakeholder engagement and public outreach**

• **Marketing tool to generate public support and raise financial resources to implement projects**
Inman Square, Cambridge, MA
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Landscape Design Conceptual Sketch
Sycamore Street, Arlington, VA
Sycamore Street, Arlington, VA
Sycamore Street, Arlington, VA
Compare Alternatives

Existing:
4 Lanes Undivided

Option 1:
3 Lanes + Bike Lanes

Option 2:
2 Lanes + Protected Bike Lanes

Option 3:
2 Lanes + 2-Way Cycle Track + Parking
125th Street, North Miami, FL
Option 1: Three Lanes with Spot Medians, Parking, and Buffered Bike lanes
125th Street, North Miami, FL

Option 2: Two Lanes with Cycle Track
Orange Avenue, Edgewood, FL

Existing
Option 1: Parking + Double Buffered Bike Lane
Add Landscape + Street Trees
Option 2: Parking Protected Buffered Bike Lane
Add Landscape + Street Trees
Option 3: Parking on Left + Left Turn Pockets + Buffered Bike Lane
Add Landscape + Street Trees
Orange Avenue, Edgewood, FL

Option 3A: Parking on Left + Left Turn Pockets + Buffered Bike Lane
Add Landscape + Street Trees + Redevelopment
Clement Avenue, Alameda, CA

Plan

Cross-Sections
Clement Avenue, Alameda, CA

Proposed – 2 Way Cycle Track
5th Avenue Trail, Billings, MT (Proposal)

Phasing and Implementation Strategy Diagram
Proposed Phase 1
5th Avenue Trail, Billings, MT (Proposal)

Proposed Phase 2
Proposed Cross-Section: Option 1
Center Median Running Shared Use Path

Proposed Cross-Section: Option 2
Two-Way Cycle Track on North Side
33rd Street, Baltimore, MD
33rd Street, Baltimore, MD
Complete Streets in Brevard county, FL

Florida Avenue
Complete Streets Feasibility Study

What is a complete street?
A roadway where the entire right-of-way is designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists, and transit riders of all ages and abilities are able to safely move along and across a complete street.

Why are complete streets important?

**COMPLETE STREETS ARE SAFE, INVITING, ENGAGING PLACES**

- Increase Safety for Pedestrians, Cyclists, and Motorists
- Support Vibrant Communities
- Expand Ability to Move Around
- Support Healthy Communities

Brevard County is implementing 6 Complete Streets Projects by 2017
The Space Coast Transportation Planning Organization has allocated a total of $18 million for the feasibility studies, design and construction of complete streets projects to be spent by 2017.

How Were Complete Street Projects Selected?

THREE PHASE SCREENING PROCESS

1. **Project Identification**
   - Begin with existing and essential network in the County
   - Identify suitable areas
     - Areas where existing, future land use promotes walking, biking, and transit
     - Opportunity, Corridor - Roadways that lack sidewalks, bike lanes, and other amenities
   - Identify Opportunity
     - Corridor - Roadways that lack sidewalks, bike lanes, and other amenities
   - Long list of candidate Complete Streets - A list of all roadways that could make good complete streets
   - Identify projects supported by local governments and Defined Types of Investments that could occur on roadway
   - Local Supported Candidate Projects

2. **Feasibility Analysis**
   - Evaluate list of locally supported candidate projects to see if:
     - Project will support walking and biking along and across roadway
     - Project is supported by local municipality
     - Project can be completed by 2017

3. **Project Selection**
   - Evaluate the quality of the candidate projects
   - Select projects selected

Projects Selected

1. Hopkins Avenue, Titusville
2. North Atlantic Avenue, Cape Canaveral
3. Peckham Street, Cocoa
4. Florida Avenue, Cocoa
5. Minuteman Causeway, Cocoa Beach
6. Hickory Street, Melbourne
Hickory Street, Melbourne, FL

Proposed: Shared Street
Proposed: Market and Festival Space on Weekends and Holidays
Florida Avenue, Cocoa, FL

Existing
Option 1: Curb Extensions and Plaza
Florida Avenue, Cocoa, FL

Option 2: Parklet + Northern Parcel Land Swap and Redesign
Public Outreach and Stakeholder Engagement
For seamless integration of graphics in the design and planning process:

• Include it as part of project scopes, budgets, and staffing decisions.

• Coordination from the start of the project between Project managers, designers, planners, visualizers, etc.

• Make visualizations and graphics an integral part of thinking process and workflow.
Where is the Industry Headed?

Source: ESRI City Engine

Source: StreetMix
Where is the Industry Headed?

Main & Spring street, Los Angeles, CA. Source: LADOT

Source: www.geek.com

Source: www.techradar.com